

CLAIMS

I Claim:

1. A connector for connecting a pair of tubular components together, comprising:

5 a pair of generally semi-cylindrical members each having a first edge and a second edge, said semi-cylindrical members being rotatably connected together at said first edge and separable from one another at said second edge to thereby provide said semi-cylindrical members with an open position in which said
10 second edges are separated from one another and a closed position in which said second edges are opposite one another; and

locking means arranged in connection with said semi-cylindrical members for locking said semi-cylindrical members to one another with said second edges opposite one another.

15 2. The connector of claim 1, further comprising a hinge for rotatably connecting said first edge of a first one of said semi-cylindrical members to said first edge of a second one of said semi-cylindrical members.

20 3. The connector of claim 2, wherein said hinge comprises a first hinge part arranged defining a pivot axis arranged on or integrally formed in connection with said first semi-cylindrical member and a second hinge part arranged on or integrally formed

in connection with said second semi-cylindrical member, said second hinge part being rotatably mounted on the pivot axis defined by said first hinge part.

5 4. The connector of claim 2, wherein said hinge is a living hinge integrally formed in connection with said first and second semi-cylindrical members.

10 5. The connector of claim 1, wherein said locking means comprise a locking lever pivotally arranged on a first one of said semi-cylindrical members at said second edge of said first semi-cylindrical member, a tension lever connected to said locking lever, and a projection formed at said second edge of a second one of said semi-cylindrical members and including a
15 groove, said locking lever being pivotable to enable said tension lever to engage with said groove.

20 6. The connector of claim 1, wherein said locking means comprise a pair of hook-shaped locking projections arranged on a first one of said semi-cylindrical members and a channel arranged on an inner surface of a second one of said semi-cylindrical members and receivable of said locking projections.

7. The connector of claim 6, wherein said locking

projections project outward from said second edge of said first semi-cylindrical member and are spaced apart from one another to enable them to flex relative to one another in order to be insertable into said channel.

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8. The connector of claim 7, wherein said channel includes at least one pair of side recesses arranged such that rear-facing surfaces of said locking projections engage with said at least one pair of recesses.

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9. The connector of claim 1, wherein said locking means comprise an outwardly oriented raised lip formed at said second edge of a first one of said semi-cylindrical members and an inwardly oriented raised lip formed at said second edge of a second one of said semi-cylindrical members, each of said lips having a sloping forward-facing surface and a planar rearward-facing surface which contact one another when said raised lips are in engagement with one another.

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10. The connector of claim 1, wherein said locking means comprise a pair of hook-shaped locking projections arranged on a first one of said semi-cylindrical members and a cavity extending inward from an outer surface at said second edge of a second one of said semi-cylindrical members and receivable of said locking

projections.

11. The connector of claim 10, wherein said locking
projections project outward from said second edge of said semi-
5 cylindrical member and each includes an interior opening to
provide flexibility upon insertion of said locking projections
into said cavity.

12. The connector of claim 10, wherein said cavity is
10 defined by opposed side walls, each of said side walls including
at least one indentation arranged to engage with said locking
projections.

13. The connector of claim 1, further comprising locking
15 flanges formed on inner surfaces of at least one of said semi-
cylindrical members, said locking flanges being adapted to engage
with a tubular component.

14. The connector of claim 13, further comprising a divider
20 flange formed on the inner surfaces of said semi-cylindrical
members and arranged to limit penetration of the tubular
components into the connector, said divider flange having a
larger height than said locking flanges.

15. The connector of claim 1, further comprising a divider flange formed on inner surfaces of said semi-cylindrical members and arranged to limit penetration of the tubular components into the connector.

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16. The connector of claim 1, wherein each of said semi-cylindrical members includes a first engagement portion adapted to engage with a first one of the tubular components and a second engagement portion adapted to engage with a second one of the tubular components, said first and second engagement portions having a different radii of curvature to thereby enable tubular components having different diameters to be coupled together by the connector.

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17. The connector of claim 16, wherein each of said semi-cylindrical members includes an arcuate lip formed between said first and second engagement portions and perpendicular to an axis passing through the connector, said arcuate lips limiting penetration of a larger diameter one of the tubular components into the connector.

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18. The connector of claim 16, wherein a first one of said semi-cylindrical members includes an axially oriented extension portion contiguous with said first engagement portion.

19. The connector of claim 16, wherein said locking means
comprise a locking lever pivotally arranged on only one of said
first and second engagement portions of a first one of said semi-
5 cylindrical members, a tension lever connected to said locking
lever, and a projection formed on the respective one of said
first and second engagement portions of a second one of said
semi-cylindrical members and including a groove, said locking
lever being pivotable to enable said tension lever to engage with
10 said groove.

20. The connector of claim 16, wherein said locking means
comprise a locking lever pivotally arranged on each of said first
and second engagement portions of a first one of said semi-
15 cylindrical members, a tension lever connected to each of said
locking levers, and a projection formed on each of said first and
second engagement portions of a second one of said semi-
cylindrical members and including a groove, said locking levers
being pivotable to enable said tension levers to engage with a
20 respective one of said grooves.

21. The connector of claim 1, wherein said semi-cylindrical
members are formed from a rigid material.

22. The connector of claim 1, wherein said locking means
comprise a flange defining an opening and extending beyond said
second edge of a first one of said semi-cylindrical members and a
projection formed on an outer surface of a second one of said
5 semi-cylindrical members at said second edge of said second semi-
cylindrical member, said projection being receivable in said
opening of said flange.

23. The connector of claim 22, further comprising a living
10 hinge integrally formed with said first and second semi-
cylindrical members for rotatably connecting said first edge of
said first semi-cylindrical member and said first edge of said
second semi-cylindrical member, said flange and said projection
also being formed integral with said first and second semi-
15 cylindrical members.

24. The connector of claim 22, wherein said projection
includes an angled surface proximate said second edge of said
second semi-cylindrical member and said flange includes a lifting
20 tab at an end apart from said first semi-cylindrical member.

25. The connector of claim 1, further comprising a sealing
layer arranged to extend circumferentially over inner surfaces of
said semi-cylindrical members.

26. A connector for connecting a pair of tubular components together, comprising:

a C-shaped member made of flexible material and having free edges, said member defining a first engagement portion at a first axial end adapted to receive a first one of the tubular components and a second engagement portion at a second axial end adapted to receive a second one of the tubular components; and

locking means arranged in connection with said member for locking said free edges to one another.

27. The connector of claim 26, wherein said locking means comprise a locking lever pivotally arranged at a first one of said free edges, a tension lever connected to said locking lever, and a projection formed on a second one of said free edges and including at least one notch, said locking lever being pivotable to enable said tension lever to engage with one of said notches.

28. The connector of claim 27, further comprising a support platform fixed at said first free edge and having a mounting bracket, said locking lever being pivotally connected to said mounting bracket.

29. The connector of claim 27, further comprising a support platform fixed at said second free edge, said projection being

formed integral with said support platform.

30. The connector of claim 26, further comprising locking flanges formed on an inner surface of said member, said locking
5 flanges being adapted to engage with the tubular component.

31. The connector of claim 30, further comprising a divider flange formed on the inner surface of said member and arranged to limit penetration of the tubular components into the connector,
10 said divider flange having a larger height than said locking flanges and separating said first and second engagement portions from one another.

32. The connector of claim 26, wherein said first and
15 second engagement portions have different radii of curvature to thereby enable tubular components having different diameters to be coupled together by the connector.

33. The connector of claim 32, wherein said member includes
20 an arcuate lip formed between said first and second engagement portions and perpendicular to an axis passing through the connector, said arcuate lip limiting penetration of a larger diameter one of the tubular components into the connector.

34. The connector of claim 32, wherein said locking means comprise a locking structure formed on each of said first and second engagement portions.

5 35. The connector of claim 26, wherein said member is made of rubber.

36. A connector for connecting a pair of tubular components together, comprising:

10 an elongate strap of flexible material having opposite free edges; and

locking means for locking said free edges of said strap together at different distances therebetween to thereby enable said strap to encircle tubular components having different sizes.

15 37. The connector of claim 36, wherein said locking means comprise a pivotable tension lever arranged at a first one of said free edges of said strap and a projection arranged at a second one of said free edges of said strap, said projection having a plurality of notches spaced at different distances from said second free edge of said strap, said tension lever being arranged to engage with any one of said notches to thereby enable variation in the distance between said first and second free edges of said strap.

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38. The connector of claim 37, wherein said locking means further comprise a mounting bracket attached at said first free edge of said strap and a pivotable locking lever arranged on said mounting bracket, said tension lever being pivotably connected to
5 said locking lever.